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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
08/951,201	10/14/1997	WILLIAM M. WOODARD	33470US	1323

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EXAMINER

DOROSHENK, ALEXA A

ART UNIT

PAPER NUMBER

1764

DATE MAILED: 02/21/2003

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

08/951,201

Applicant(s)

WOODARD ET AL.

Examiner

Alexa A. Doroshenk

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 31 December 2002.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-6 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-6 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 28.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 10, 2002 has been entered.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1, 2 and 4 are rejected under 35 U.S.C. 102(b) as being anticipated by Avidan et al. (4,778,661).

With respect to claim 1, Avidan et al. discloses a system comprising:

a reactor (2);

a first inlet line (23) for olefin reactant (inherently connected to a source of that olefin);

a second inlet line (14) for catalyst operable connected to a source of catalyst (13);

wherein said first and second inlet lines are separate from one another (see figure 1) and located in the reactor to provide contact within the reactor of the materials they carry (col. 6, line 59- col. 7, line 3);

an effluent line (46) from the reactor for transferring olefin, catalyst and reaction products (col. 7, lines 23-26); and

a separator (50) connected to the effluent line (46) to separate desired products (col. 7, lines 29-32).

With respect to claim 2, Avidan et al. discloses wherein a filter can be operably connected into the effluent line (col. 8, lines 62-65).

With respect to claim 4, it would be inherent in the apparatus to have a line with which a source of olefin is connected to the olefin inlet line (23) in order to satisfy the requirement of providing olefin.

Claims 1 and 4 of the instant invention read directly on the apparatus of Avidan et al.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claim 3 is rejected under 35 U.S.C. 103(a) as being unpatentable over Avidan et al. (4,778,661) in view of Lashier et al. (5,689,028).

The apparatus of Avidan et al. discloses all of the structural elements as described above, but does not disclose an inlet for catalyst system deactivator.

Lashier et al. discloses a process to regulate olefin production in which a catalyst comprising a chromium source, a pyrrole-containing compound and a metal alkyl (col. 1, lines 55-59) is deactivated in the reactor effluent stream (col. 5, line 65- col. 6, line 21). Lashier et al. disclose that the reaction products can be prepared from a conventional gas phase catalyst system (col. 4, line 65- col. 5, line 2). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include an inlet for catalyst deactivator into the effluent stream of Avidan et al. gas phase catalyst system in order to regulate the production of olefin during trimerization once it has left the reactor.

6. Claim 5 is rejected under 35 U.S.C. 103(a) as being unpatentable over Avidan et al. (4,778,661) in view of Harandi et al. (4,788,366).

With respect to claim 5, Avidan et al. is silent as to an inlet line connected to a source of heavies.

Harandi et al. discloses a similar trimerization system with olefin feed, catalyst feed, effluent line (22), effluent separation and a feedstock or recycle inlet (21) operably connected to the effluent line wherein the source of feedstock for the process could contain heavies (col. 3, lines 41-52). It would have been obvious to one of ordinary skill in the art at the time the invention was made to provide a heavies inlet in the apparatus of Avidan et al. as providing such an inlet further promotes the production of Avidan et

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al.'s desired products as taught by Harandi et al. (which also produced products such as Avidan et al.).

7. Claim 6 is rejected under 35 U.S.C. 103(a) as being unpatentable over Avidan et al. (4,778,661) in view of Mehra et al. (5,521,264).

With respect to claim 6, Avidan et al. is silent as to an inlet line connected to a source of trimerization reaction solvent.

Mehra et al. disclose an apparatus similar to that of Avidan et al. including a separator, a reactor, filters, and a solvent inlet line (col. 13, lines 61-65 and reference number 98). Mehra et al. teaches the use of a solvent to absorb ethylene, higher alpha olefin comonomers, and heavier hydrocarbons (col. 13, lines 61-65). It would have been obvious to one of ordinary skill in the art at the time the invention was made to include a solvent inlet in optimal operable connection in the apparatus of Avidan et al. to incorporate the teaching of Mehra et al. and further remove heavies during operation.

Response to Arguments

8. Applicant's arguments with respect to claims 1-⁶~~7~~ have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Alexa A. Doroshenk whose telephone number is 703-305-0074. The examiner can normally be reached on Monday - Thursday from 9:00 AM - 7:30 PM.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Glenn Caldarola can be reached on 703-308-6824. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9310 for regular communications and 703-872-9311 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-308-0661.

AA

AAD

February 19, 2003

Dan J. Johnson
DAN J. JOHNSON
PRIMARY EXAMINER
GROUP 1100